[0136] In the layer domain, the CQI reference resource is defined by any RI and PMI on which the CQI is conditioned.

[0137] In the CQI reference resource, the UE shall assume the following for the purpose of deriving the CQI index:

[0138] The first 3 OFDM symbols are occupied by control signalling

[0139] No resource elements used by primary or secondary synchronisation signals or PBCH

[0140] CP length of the non-MBSFN subframes

[0141] Redundancy Version 0

[0142] If CSI-RS is used for channel measurements, the ratio of PDSCH EPRE to CSI-RS EPRE is as given in Section 7.2.5

[0143] The PDSCH transmission scheme given by Table 7.2.3-0 reproduced as FIG. **1**(*f*) depending on the transmission mode currently configured for the UE (which may be the default mode).

[0144] If CRS is used for channel measurements, the ratio of PDSCH EPRE to cell-specific RS EPRE is as given in Section 5.2 with the exception of ρ A which shall be assumed to be

[0145] PA=PA+Δ offset+10 log(2) [dB] for any modulation scheme, if the UE is configured with transmission mode **2** with 4 cell-specific antenna ports, or transmission mode **3** with 4 cell-specific antenna ports and the associated RI is equal to one;

[0146] ρA=PA+Δoffset [dB] for any modulation scheme and any number of layers, otherwise.

[0147] The shift Δ_{offset} is given by the parameter nomPDSCH-RS-EPRE-Offset which is configured by higher-layer signaling.

[0148] In TM**9** the CQI measurement is based on CSI RS with a configurable periodicity of 5 ms to about 80 ms. Referring to FIG. **5** it can be seen that it thus is possible that for a considerable period of time after activation/end of a gap there is no CSI RS subframe available, but some periodic CQI resource is configured or aperiodic CQI is requested. The total period could be much longer than 4 ms depending on the CSI RS periodicity and its occurrence after activation.

[0149] Several options were suggested in R2-106507 to permit the UE to not transmit CQI or to report OOR (out of range) for 4 ms after activation. However, R2-106507 did not address the case of TM**9** and the resumption of operation after a long ICO gap.

[0150] Before describing in further detail the exemplary embodiments of this invention, reference is made to FIG. **2** for illustrating a simplified block diagram of various electronic devices and apparatus that are suitable for use in practicing the exemplary embodiments of this invention. In FIG. **2** a wireless network **1** is adapted for communication over a wireless link **11** with an apparatus, such as a mobile communication device which may be referred to as a UE **10**, via a network access node, such as a Node B (base station), and more specifically an eNB **12**. The network **1** may include a network control element (NCE) **14** that may include the MME/SGW functionality shown in FIG. **1**(*a*), and which provides connectivity with a further network, such as a telephone network and/or a data communications network (e.g., the internet). The UE **10** includes a controller, such as at least one computer or a data processor (DP) **10**A, at least one non-transitory computer-readable memory medium embodied as a memory (MEM) **10**B that stores a program of computer instructions (PROG) **10**C, and at least one suitable radio frequency (RF) transceiver **10**D for bidirectional wireless communications with the eNB **12** via one or more antennas. The eNB **12** also includes a controller, such as at least one computer or a data processor (DP) **12**A, at least one computer-readable memory medium embodied as a memory (MEM) **12**B that stores a program of computer instructions (PROG) **12**C, and at least one suitable RF transceiver **12**D for communication with the UE **10** via one or more antennas (typically several when multiple input/multiple output (MIMO) operation is in use). The eNB **12** is coupled via a data/control path **13** to the NCE **14**. The path **13** may be implemented as the S1 interface shown in FIG. **1**. The eNB **12** may also be coupled to another eNB via data/control path **15**, which may be implemented as the X2 interface shown in FIG. **1**.

[0151] For the purposes of describing the exemplary embodiments of this invention the UE **10** may be assumed to also include a CQI measurement and reporting unit or function or module (CQI) **10**E, and the eNB **12** may include a complementary CQI unit or function or module **12**E for receiving and interpreting CQI information received from the UE **10**. Note also that the transceiver **10**D (and related baseband circuitry and antenna) can represent the LTE RF and LTE baseband blocks (and antenna #**1**) shown in FIG. **3**. In addition, the UE **10** can include one or both of the global positioning system (GPS) RF and baseband blocks (and associated antenna #**2**) and the Bluetooth (BT)/WiFi RF and baseband blocks (and associated antenna #**3**) of FIG. **3**.

[0152] At least one of the PROGs **10**C and **12**C is assumed to include program instructions that, when executed by the associated DP, enable the device to operate in accordance with the exemplary embodiments of this invention, as will be discussed below in greater detail. That is, the exemplary embodiments of this invention may be implemented at least in part by computer software executable by the DP **10**A of the UE **10** and/or by the DP **12**A of the eNB **12**, or by hardware, or by a combination of software and hardware (and firmware). Further in this regard the CQI units **10**E, **12**E can be implemented entirely in circuitry, or entirely as software code, or as a combination of circuitry and software code (and firmware).

[0153] In general, the various embodiments of the UE **10** can include, but are not limited to, cellular telephones, personal digital assistants (PDAs) having wireless communication capabilities, portable computers having wireless communication capabilities, image capture devices such as digital cameras having wireless communication capabilities, gaming devices having wireless communication capabilities, music storage and playback appliances having wireless communication capabilities, Internet appliances permitting wireless Internet access and browsing, as well as portable units or terminals that incorporate combinations of such functions.

[0154] The computer-readable memories **10**B and **12**B may be of any type suitable to the local technical environment and may be implemented using any suitable data storage technology, such as semiconductor based memory devices, random access memory, read only memory, programmable read only memory, flash memory, magnetic memory devices and systems, optical memory devices and systems, fixed memory and removable memory. The data processors **10**A and **12**A may be of any type suitable to the local technical environment, and may include one or more of general purpose computers, special purpose computers,